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ABSTRACT

This report summarizes research undertaken at the Sterling C. Evans Library, Texas A & M University to assess the impact that end user information retrieval systems may have on library staff and users. Two systems, BRS/After Dark and Search Helper, were made available in the library for end user searching at no cost. A total of 260 users searched BRS/After Dark and 126 people used Search Helper. Questionnaires administered to both users and library personnel gathered data on problems experienced, levels of satisfaction, and staff assistance required. It was found that library users could successfully search both end user services with minimal instruction. The low average costs of the end user searches suggest opportunities for libraries to provide this type of online access to users at either no charge or at very modest fees. Although end user services were regarded as easy to use by the majority of participants in the study, it was determined that library staff should be actively involved in the administration of the services. Search planners and flip charts for each of the systems, the end user and staff questionnaires, a publicity piece, and the follow-up study questionnaire are appended. (Author/THC)

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FINAL REPORT FROM THE PUBLIC SERVICES RESEARCH PROJECTS

Texas A&M University

Project sponsored by the General Electric Foundation

**Office of Management Studies
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Washington, D.C.
January, 1985**

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**A Comparison of Two End User Operated Search Systems
Final Report**

Sterling C. Evans Library, Texas A&M University

**Jane Dodd
Charles Gilreath
Geraldine Hutchins**

**Office of Management Studies
Association of Research Libraries
Washington, D.C.
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A Comparison of Two End User Operated Search Systems

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Abstract

End user services which provide a user-friendly interface to large database systems and allow users to conduct literature searches using simplified protocols are being developed by database producers and vendors. The possibilities for libraries to make effective use of such systems are great. This report summarizes research undertaken at the Sterling C. Evans Library, Texas A&M University to assess the impact that end user systems may have on library staff and users. Two systems, BRS/After Dark and Search Helper, were made available in the library for searching by end users at no cost to them. Through questionnaires for both users and library staff, data were collected on problems experienced, on levels of satisfaction, and on staff assistance that was required. It was found that library users can successfully search both end user services with minimal instruction. The low average costs of the end user searches offer opportunities for libraries to provide this type of online access to users at either no charge or at very modest fees. Even though the end user services were regarded to be easy to use by the majority of the participants in this study, they do require that library staff be actively involved in their administration. The level of staff required to provide adequate service is not excessive for moderately staffed libraries.

Introduction

New end user services which provide a user-friendly interface to large database systems and allow users to conduct literature searches using simplified protocols are being developed by database vendors and producers such as BRS, DIALOG, and Information Access Company. These systems are designed with some form of cost savings, either by providing services at

reduced rates during off-peak hours or by having part of the system available to structure search logic offline prior to online connection. The principal audience for such systems is clearly the end user, the person who has a home computer and the desire to use a large information retrieval system to find literature on his own. The possibilities for libraries to make effective use of such systems are, however, equally great; and in fact, some might argue that academic libraries in particular may have a very important role in familiarizing their clientele with the potential such systems provide. Before libraries consider adding such services, however, the impact these services will have on both patrons and staff should be investigated. This project was undertaken as a means of beginning to determine some of those impacts.

The Sterling C. Evans Library of Texas A&M University serves a population of approximately 30,000 undergraduates, 6,000 graduate students, 2,200 faculty, University staff, and community users. Reference services are offered from a central reference department which also includes the Library's fee-based online service. Since 1982, online searches have been conducted at the reference desk to assist in answering reference questions, at no charge to the users. The philosophy of the Library regarding online services is best expressed by the following quotation from the Library's "Long Range Plan for Automation":

"The University Library will continue to develop its capabilities in the use of automated systems to deliver reference services. The systems of online vendors such as DIALOG and BRS will continue to be made available as a ready reference tool, and where significant advantages can be gained for the improvement of service, the availability of these resources will be expanded. This expansion may also take the form of search subsidies or service without charge to targeted groups of users...Where online systems improve user access to materials and prove affordable, the University Library will consider state-of-the-art online systems for direct user access."

Interest in offering the user-friendly, end user services when they first became available was a natural outgrowth of this philosophy.

The investigators compared two systems, Bibliographic Retrieval Service's BRS/After Dark and Information Access Company's Search Helper, which offer considerably different approaches to end user searching.

The principal research questions of this study were the following:

1. What demands do end user systems place on library staff? How much assistance is required and what type of help is needed?
2. How satisfied are patrons with such systems? How easy are the systems for them to use? Are they content with the results?
3. What are the costs to the library, aside from staff time, for providing access to such systems?

Review of the Literature

Since online searching began in the early 1970's it has become a fully integrated part of library services (Janke, 1984). Vendors such as DIALOG, BRS, SDC and NLN developed systems that were originally conceived with the end user in mind according to Faibisoff (1981). The use of these systems has changed the way libraries provide information (Stabler, 1984), but the cost, the difficulty of use and the need for extensive training (Williams, 1973) have generally required the intervention of trained intermediaries.

End user searching of the traditional online bibliographic services such as BRS and DIALOG has been investigated in various studies. Libraries at Eastman Kodak (Haines, 1982) and at Raytheon Company (Richardson, 1981) provided scientists with the necessary training to conduct their own searches using DIALOG. Haines (1982) maintains that it is possible and worthwhile to train interested end users to conduct their own searches. Other research has focused on training university faculty (Grotophorst, 1984) and graduate students (Brooks, 1982; Lucia, 1984; Schwerzel, 1982) to do their own searches on BRS and DIALOG.

Ojala (1983) predicts that 7 million microcomputers will be in operation by 1995. With this rise in use, there is a growing community of sophisticated and interested computer users who are using their microcomputers for a variety of tasks, ranging from spread sheet applications to interactive online searching (Janke, 1983). The Source and CompuServe are systems which provide a wide range of consumer services to microcomputer users (Dewey, 1983). Others such as Westlaw and Lexis provide the full text of court decisions and statutes for those involved in legal research.

In response to the growing interest of microcomputer owners and libraries in accessing online information, online vendors have developed products such as BRS/After Dark, Knowledge Index (Tenopir, 1993), and Search Helper, all user-friendly, end user

systems. Studies have investigated the use of Search Helper as a ready reference tool (Ensor, 1984) and as an end user service in providing undergraduates with online information (Smith, 1984). Janke (1983, 1984) and Trzebiatowski (1984) have discussed BRS/After Dark and have explored, with a select number of users, its impact on user satisfaction.

As end user searching gains popularity, it will greatly influence the nature of online services and the methods by which libraries provide access to information (Bourne, 1980; Meadow, 1979). End user searching will also change the librarian's role in online searching. To the role of the intermediary will be added the roles of technician and consultant (Hunter, 1984). Reported research to date on end user searching has focused on user satisfaction, the ease of use, and the training needed to offer this service to a specific group of users. Other considerations such as the provision of end user systems for a large, varied community of users, the cost of offering the service at no charge to users, and the amount of staff assistance required in end user searching have not been studied. This research was designed to investigate aspects of these broad questions.

Project Budget

This project was conducted with funds from the OMS Public Services in Research Libraries program, supported by a grant from the General Electric Foundation, and with additional support from the Sterling C. Evans Library (Table 1). The grant funds for the project which ran from February to May 1984 were expended by April 23, and the Library provided supplemental funding to continue the project until the end of the spring semester.

Table 1
Project Budget

Texas A&M Contributions:	
Equipment usage	\$2,000.00
Additional computer time (April 23 - May 10, 1984)	451.47
Staff (.3 FTE for 6 months)	7,500.00
Consumable supplies	75.00
OMS Public Services Research Project Grant:	
Search Helper	2,000.00
BRS/After Dark	2,000.00
Total	\$14,026.47

Methodology

End user systems

The investigators chose to compare BRS/After Dark and Search Helper because of their considerably different approaches to user-conducted searching. After Dark is a fully interactive interface which offers access to over 30 of the regular BRS databases (including CHEM, BIOL, ERIC, PSYC, CAIN, NTIS, and others) during off-peak hours (after 6 P.M. weekdays and all day on weekends). Average connect time rates are typically one-fourth to one-third that of normal daytime rates, ranging from \$6.00 per hour on ERIC to \$20.00 on Social Sciences Citation Index (SSCI). The system utilizes a simplified command structure, allows only online printing, and lacks some of the more sophisticated embellishments of the regular BRS system.

After Dark was chosen over DIALOG's Knowledge Index for a number of reasons. First, After Dark offered a larger number of databases at a lower average cost; Knowledge Index charges a flat \$24 per hour compared to After Dark's variable charges of from \$6 to \$20 per hour. At the time the choice of vendors was made, After Dark offered databases such as CHEM and BIOL which Knowledge Index did not; these were files which the investigators felt would be of particular interest to the users at Texas A&M. Finally, DIALOG's policy required payment for Knowledge Index usage only by credit card, an administrative hurdle which the investigators were unable to overcome.

The equipment utilized for After Dark included a DECwriter printer driven by an IBM 3101 terminal, which had been purchased initially for conducting legal searches. The IBM terminal proved to be rather user-unfriendly at first, but staff and library patrons learned to adapt fairly quickly to its idiosyncracies. Due to local telecommunications problems at the beginning of the data collection period, the After Dark service was initially offered at 300 baud. The slow speed caused considerable frustration and dissatisfaction for both library staff and patrons. Later a 1200 baud modem was made available, which provided a cost savings and an increase in patron satisfaction.

In comparison, Search Helper is a microcomputer based system which prompts the user through the formulation of a simple search request. Once the request has been formulated, the equipment then automatically dials DIALOG, signs onto the system, conducts the search, downloads the information retrieved, signs off, and prints out the most recent citations. During the main portion of the project, the equipment on which the program ran was a Commodore VIC 20, and output was limited to the first 15 citations retrieved. Now a much more sophisticated version of the program has been developed which

runs on an Eagle microcomputer and allows the user to print out citations in groups of 20 at a time. The databases available through Search Helper are Magazine Index, Legal Resources Index, Trade & Industry Index, Newsearch, Management Contents, and National Newspaper Index. Unlike After Dark, Search Helper is offered during all the hours of regular DIALOG operation. Search Helper charges are \$2.50 per search, regardless whether the search retrieves any citations.

Training

During the Fall semester of 1983, the investigators learned the systems, developed questionnaires for both users and staff, prepared at-the-terminal reference guides in the form of flip charts, search planners, and other items for use with patrons and staff. Search planners (Appendices 1 and 2) were developed for both Search Helper and BRS/After Dark. These included illustrations of Boolean logic, search tips, examples of search strategies, and workspace for the users to map out their own search strategies. At-the-terminal flip charts (Appendices 3 and 4) for each service were designed to help the users conduct searches. Each flip chart included an illustration of the terminal keyboard, pointing out things such as how to backspace and the location of the enter key. Each flip chart also contained examples of the search protocols for the system. In addition, the BRS/After Dark flip chart provided illustrations of commands, connectors, truncation, field qualification, and print format options. The flip charts were placed on stands beside each terminal and served as reference aids for the users.

In January, 1984, Reference staff were given training on both systems and were instructed on procedures to follow during the data collection period. All the full time staff in the reference department who regularly work at the reference desk had previously received extensive online training in use of the DIALOG and the BRS systems for ready reference purposes. Consequently, they were familiar with the general requirements of logging on and off computer systems, and they understood the basics of conducting online searches. Training them to use After Dark and Search Helper, therefore, was relatively easy. BRS/After Dark training was provided over a two-day period. The first of the training sessions was designed to explain the purpose and procedures of the project. The questionnaires (Appendix 5) and search planners were explained, and the staff members were able to ask questions, make comments and offer suggestions regarding the systems in general. The staff members were familiarized during After Dark sessions with logon procedures and were instructed on the differences between protocols of the full BRS system and those of the After Dark system. They were then given access to the system in small groups, utilizing a demonstration password provided by BRS, in order to allow them a chance to practice and gain experience

with the capabilities and limitations of the system before they began to assist end users in conducting searches. Instructional sessions of approximately 90 minutes were provided for Search Helper. They covered equipment set-up, password control, and system operation. Because the Search Helper system establishes specific relationships between the user's search terms, a substantial amount of time was devoted in the sessions to explaining the specific DIALOG commands created by the software in order to help staff troubleshoot problems with search logic.

Pre-search training for the end users was minimal. Patrons who inquired about the service were informally given a short explanation of the service and a brief introduction to search strategy and searching. No introductory lectures or special instructional sessions were offered to users, but staff members were trained sufficiently to provide on-demand assistance to the end users throughout the sessions.

Publicity

Publicity of the service was limited to a single page "Library Do-It-Yourselfer" flyer (Appendix 6) which was posted in the reference area and made available in multiple copies at the reference desk. Staff members were encouraged to mention the new services as part of general bibliographic instruction sessions. They were also encouraged to suggest the end user systems as an alternative strategy either to manual literature searching or to staff mediated online searching where they felt the systems would appropriately serve the users' needs. Other than the posters in the reference area of the library, no official publicity was prepared, the desire being to avoid as much as possible a sudden surge of use which would prejudice the results in regard to the day-to-day impact such services would have on library operations.

Data collection

Data collection began in February 1984, and continued through the end of the semester in May. The service was offered Monday through Thursday, 6 P.M. to 9 P.M., and on Saturdays from 9 A.M. to 5 P.M. Each user was restricted to two sessions per day for a maximum of two days per week on either system. An After Dark session was defined as 15 minutes online; a Search Helper session was defined as one which attempted to result in at least one citation, frequently requiring more than one search.

With the exception of student workers, all reference staff were involved in the end user services. They provided information about the services, handed out search request forms and maintained the queue of users. They were responsible for logging patrons on to the After Dark system, assigning a

password for each Search Helper search, maintaining session statistics, and resolving any equipment problems. They advised users on choice of appropriate databases, effective search strategies, and problems that occurred during search sessions.

Initially, the investigators asked reference staff to handle the details of the end user sessions just as any other requests coming to the desk. Any staff member who was available would answer preliminary questions, log the user on to the terminal when it became available, and return to the reference desk. Because of problems arising from the physical arrangement of equipment in the reference area, the number of times that the end users required assistance during their searches, and the increasing popularity and demand for the services, logistical changes became necessary. Beginning in March, one staff member was stationed in the computer terminal area when the services were available to coordinate the service, assist users in mapping out their search strategy, log them on, and provide assistance during the searches. Assignment as the coordinator rotated among the staff members. This arrangement proved to be much more satisfactory both in reducing staff frustration and in providing timely assistance to patrons.

Data were collected from both users and staff. Users were required to complete a questionnaire at the conclusion of each search to gather information regarding their academic classification, major, previous experience with information resources, and their assessment of various aspects of the search process. Staff also completed a questionnaire on each search, reporting database statistics, the amount and type of assistance provided to the users, and perceptions of the users' sessions. These staff questionnaires were labelled so that comparisons could be made between staff perceptions and user perceptions of the same session. Costs were calculated from staff reports and from the invoices provided by BRS and IAC.

Discussion of Results

Success of the end users

The end users of the systems were not drawn from a target population. They were people who found out about the systems from their friends, library staff, or the announcement posted in the reference area. Even with this very limited publicity, people waited in line most of the time the services were available. A total of 260 users searched on BRS/After Dark. Of these, 56.5% were graduate students, 28.8% per cent juniors and seniors, 7.3% faculty and staff, 7.3% freshmen and sophomores. A total of 126 people used Search Helper. Of the Search Helper users, 50% were juniors and seniors, 24% freshmen and sophomores, 19% graduate students, and 7% faculty and staff.

Thirty-four percent of the After Dark users were from the College of Agriculture, and 34% of the Search Helper users were from the College of Business. The remainder of the users represented all colleges within the University.

Information was gathered from the participants regarding their experience with library services. There was little difference in the library experience of After Dark and Search Helper users. Table 2 displays the percentage of end users of the two services who reported previous use of certain library services as well as their experience with computers. It is interesting to note that nearly as many users said that they had used microcomputers as the number who said they had used printed indexes.

Table 2
End Users' Experience With
Library Services and Computers

	After Dark (260 users)	Search Helper (126 users)
Printed indexes	75%	79%
Microtext department	63%	65%
Government documents	39%	40%
Online catalog	37%	38%
Learning resources department	24%	33%
Online retrieval services	24%	18%
OCLC	12%	14%
Microcomputers	65%	67%
Mainframe computers	44%	40%
Own a microcomputer	15%	13%

Even though the waiting lines were long, there was considerable repeat use of the systems. Forty-two percent (108 of 260 users) returned for additional use of BRS/After Dark. Of the After Dark repeaters, 55 returned once, 25 returned twice, 18 returned 3 to 5 times, and 10 returned 6 or more times. BRS/After Dark initially appealed to graduate students more than any other group, and repeat use of the system was also much greater for graduate students. Of the total 545 After Dark searches, 61.5% of the searches were done by graduate students, 24.9% by juniors and seniors, 9.5% by faculty and staff, and 4.1% by freshmen and sophomores. Twenty-six percent (33 of 126 users) returned for additional use of Search Helper. Of the Search Helper repeaters, 17 returned once, 9 returned twice, and 7 returned 3 to 5 times. The majority of repeat use of Search Helper also occurred in the group for which it was initially most popular--juniors and seniors. Of the total 184 Search Helper sessions, 52.2% were conducted by juniors and seniors, 23.9% by freshmen and sophomores, 18.5% by graduate students, and 5.4% by faculty and staff. Thirty-four people used both BRS/After Dark and Search Helper.

Table 3
Summarized End User Search Results

	<u>After Dark</u>		<u>Search Helper</u>	
Average number of references/session	31	(538)	12	(183)
Average number of references-first-time use	21	(260)	12	(125)
Average number of references-repeat use	40	(278)	11	(58)
Average % relevant references/session	50	(497)	53	(172)
Average cost/session	\$3.56	(545)	\$7.74	(184)
Average connect time	19.5 min.	(545)	NA	

Note: Figures in parentheses are Ns for the adjacent values.

Table 4
References Retrieved by End Users

<u>Number of References</u>	<u>After Dark</u> <u>N = 538</u>	<u>Search Helper</u> <u>N = 183</u>
Mean - References/Session	31	12
Median - References/Session	20	15
Mode	20 (29)	15 (50)
Minimum	0 (24)	0 (19)
Maximum	302 (1)	45 (1)
Standard Deviation	38	9
<u>Percentage Relevant</u>	<u>N = 497</u>	<u>N = 172</u>
Mean - % Relevant/Session	51.6	56.2
Median - % Relevant/Session	50.0	53.0
Mode	100.0 (82)	100.0 (58)
Minimum	0.0 (62)	0.0 (34)
Maximum	100.0 (82)	100.0 (58)
Standard Deviation	33.5	38.6

Note: Figures in parentheses are Ns for the adjacent values.

The advertised cost for using Search Helper at the time of this project was \$2.50 per search. However, in our use of the system the actual cost for a search session was considerably higher. Because of the rigid logic of the system, users could not recover from as little as a misspelled word once the return key was touched without doing another search for another \$2.50. It was virtually impossible to monitor the number of searches actually done. The staff tried to record unsuccessful attempts and known searches, but the figures are not precise. The invoices for Search Helper use included 22% more billed searches than the number indicated by our records. The new version of Search Helper permits use of tokens, one per search, which should be very helpful in monitoring the actual cost of the system. Because there was no way of knowing how many "searches" were actually entered and/or billed before users obtained references and because a few of the users successfully retrieved the limit of 15 references more than once without having to get

a new password, the cost per search as well as number of references retrieved and percentage of relevant references retrieved are based on "sessions" of searching. The average cost for a Search Helper session which yielded an average of 12 references was \$7.74. It is known that in some cases as many as 8 searches were done within individual sessions before results were obtained. Experience similar to this has previously been reported (Smith, 1984).

The guidelines for use of BRS/After Dark specified a limit of 15 minutes per search. The time was to be measured from the time the users were first connected to a database, that is when the logon procedures were completed. This time limit was not strictly adhered to for a number of reasons. At times, staff members were helping other patrons and unable to enforce the limit. Also, the users were generally permitted to finish printing a set of references, if not excessive. The overall average time per search was 19.5 minutes. This includes both the time for which users were actually connected to databases (17.1 minutes/search) and the time during which the logon procedures were underway (2.4 minutes/search). BRS bills this latter time at its minimum rate of \$6.00 per hour, and it includes the time for specifying the line length and number of lines per screen, choosing the appropriate general category, and selecting the desired database. This appears on BRS/After Dark invoices as a file named "Club". The "Club" costs, which averaged \$.24/search, are included in the BRS/After Dark cost analysis in Table 5. The hourly charges for searching BRS/After Dark databases ranged from \$6.00 to \$20.00 per hour.

Table 5
Cost per Search - BRS/After Dark
N = 545

Mean	\$ 3.56
Median	\$ 3.56
Minimum	\$.99
Maximum	\$ 9.51
Standard Deviation	\$ 1.30

The most popular databases on BRS/After Dark were AGRICOLA and BIOSIS. The "Magazines" file was the most heavily used Search Helper database (Table 6).

Table 6
Databases Searched

<u>BKS/After Dark</u> (545 Sessions)	
<u>Sciences/Medicine</u>	
AGRICOLA	149
BIOSIS	113
Chemical Abstracts	70
NTIS	49
<u>Social Sciences/Humanities</u>	
PsychInfo	55
Social Sciences Citation Index	41
PAIS	21
<u>Business/Financial</u>	
ABI/Inform	31
Management Contents	31
<u>Education</u>	
ERIC	49
 <u>Search Helper</u> (184 Sessions)	
Magazines	100
Newspapers	51
Recent Arrivals	48
Business Journals	37
Management Journals	35

Ratings of the search process by the end users

At the end of each search session, the users were asked to rate, on a scale from 1 (easy) to 5 (difficult), 5 aspects of the search process (Appendix 5). The average end user ratings are listed in Table 7.

Table 7
Average End User Ratings
(Scale: 1 = easy to 5 = difficult)

	<u>After Dark</u>		<u>Search Helper</u>	
	<u>N</u>	<u>Rating</u>	<u>N</u>	<u>Rating</u>
Operating the terminal	526	1.50	177	1.16
Choosing an appropriate database	528	1.39	177	1.54
Choosing appropriate keywords	528	2.03	177	1.70
Zeroing in on relevant references	503	2.19	163	1.91
Using logical connectors	469	1.87		

The ratings of degree of difficulty experienced by first-time users, both those who returned for additional searches and those who did not, were isolated. The purpose in analyzing the ratings of both types of first-time users was to ascertain if any of the specific aspects of the search process may have discouraged additional use of the system. As Tables 8 to 13 indicate, there were minimal differences between the ratings of the first-time users who returned for additional searching and those who did not.

The ratings of difficulty experienced by all repeat users were also isolated to identify potential differences between the ratings with first-time use and repeat use. Significant differences in the ratings of all first-time users and repeat users of BRS/After Dark exist on all 5 aspects of the search process: 1) Operating the terminal--reduction of 25% with repeat use (Table 8), 2) Choosing an appropriate database--reduction of 18.8% (Table 9), 3) Choosing appropriate keywords--reduction of 17.8% (Table 10), 4) Zeroing in on relevant references--reduction of 21.2% (Table 11), and 5) Using the proper logical connectors--reduction of 26.3% (Table 12). The reductions in ratings by repeat users indicate that the users found these aspects of searching considerably easier with additional experience. There was only one aspect of the search process for which the ratings of first-time users and repeat users of Search Helper changed significantly. The rating for "Zeroing in on relevant references" dropped 21.6% (Table 11). For Search Helper users, the other aspects all were rated as being easier with additional use, but not to a great extent: 1) Operating the terminal--reduction of 13.2% (Table 8), 2) Choosing an appropriate database--reduction of 7.6% (Table 9), and 3) Choosing appropriate keywords--reduction of 6.3% (Table 10).

Table 8
End User Ratings
Operating the Terminal
(Scale: 1 = easy to 5 = difficult)

	After Dark		Search Helper	
	<u>N</u>	<u>Rating</u>	<u>N</u>	<u>Rating</u>
All searches	526	1.50	177	1.16
First-time use, non-repeaters	153	1.75	89	1.23
First-time use, repeaters	105	1.68	32	1.16
All first-time use	258	1.72	121	1.21
All repeat use	268	1.29	56	1.05
Change with repeat use		25%		13.2%

Table 9
End User Ratings
Choosing an Appropriate Database
(Scale: 1 = easy to 5 = difficult)

	After Dark		Search Helper	
	<u>N</u>	<u>Rating</u>	<u>N</u>	<u>Rating</u>
All searches	528	1.39	177	1.54
First-time use, non-repeaters	153	1.58	89	1.52
First-time use, repeaters	107	1.49	32	1.75
All first-time use	260	1.54	121	1.58
All repeat use	268	1.25	56	1.46
Change with repeat use	18.8%		8.2%	

Table 10
End User Ratings
Choosing Appropriate Keywords
(Scale: 1 = easy to 5 = difficult)

	After Dark		Search Helper	
	<u>N</u>	<u>Rating</u>	<u>N</u>	<u>Rating</u>
All searches	528	2.03	177	1.70
First-time use, non-repeaters	152	2.24	89	1.73
First-time use, repeaters	108	2.23	32	1.75
All first-time use	260	2.24	121	1.74
All repeat use	268	1.84	56	1.63
Change with repeat use	17.8%		5.3%	

Table 11
End User Ratings
Zeroing in on Relevant References
(Scale: 1 = easy to 5 = difficult)

	After Dark		Search Helper	
	<u>N</u>	Rating	<u>N</u>	Rating
All searches	503	2.19	163	1.91
First-time use, non-repeaters	145	2.42	83	2.15
First-time use, repeaters	102	2.50	30	1.77
All first-time use	247	2.45	113	2.04
All repeat use	256	1.93	50	1.60
Change with repeat use	21.2%		21.6%	

Table 12
End User Ratings
Using the Logical Connectors
(Scale: 1 = easy to 5 = difficult)

	After Dark	
	<u>N</u>	Rating
All searches	469	1.87
First-time use, non-repeaters	125	2.15
First-time use, repeaters	94	2.20
All first-time use	219	2.17
All repeat use	250	1.60
Change with repeat use	26.3%	

The users were asked to rate their overall satisfaction with each search session. A scale from 1 (very satisfied) to 5 (very dissatisfied) was used. The average response to overall satisfaction with BRS/After Dark searches was 1.86; the average response with Search Helper sessions was 1.79 (Table 13). In isolating the responses of the first-time users, the average response for those who did not return was 8.3% higher than for the first-time users of BRS/After Dark who did return for additional searching. The average response for those first-time Search Helper users who did not return was 30% higher than the

average response for the first-time use of the repeaters. The ratings of overall satisfaction were the only user ratings for which there were significant differences between first-time users who returned and those who did not. Comparison of the average ratings from all first searches with subsequent searches shows a reduction on BRS/After Dark of 14.9% and on Search Helper of 12.8%. This improvement in overall satisfaction with repeat use parallels the increased ease in the various aspects of the search process as indicated by the repeat users.

When users expressed dissatisfaction, defined by the investigators as a rating of 3 or above on the overall satisfaction scale, their ratings on the other rating scales were also considerably different from the average ratings for all searches. On BRS/After Dark, the least satisfied users rated the difficulty of operating the terminal and choosing an appropriate database 29.3% and 23.7% higher, that is more difficult. However, their ratings for choosing appropriate keywords, zeroing in on relevant references, and using logical connectors were, respectively, 40.9%, 47.1%, and 42.9% higher (more difficult). When users expressed overall dissatisfaction with Search Helper, their ratings for operating the terminal and choosing an appropriate database were only 7.8% and 7.1% higher. The least satisfied Search Helper users rated choosing keywords 22.4% higher and zeroing in on relevant references 48.2% higher (more difficult).

Table 13
End User Ratings
Overall Satisfaction

	After Dark		Search Helper	
	<u>N</u>	Rating	<u>N</u>	Rating
All searches	519	1.86	173	1.79
First-time use, non-repeaters	151	2.08	87	1.99
First-time use, repeaters	107	1.92	30	1.53
All first-time use	258	2.01	117	1.87
All repeat use	261	1.71	56	1.63
Change with repeat use	14.9%		12.8%	

On the evaluation forms the users were asked to check, from a list of technical problems, ones with which they experienced difficulty. Table 14 lists these and the frequency of responses for each problem.

Table 14
Problems Indicated by End Users

<u>BRS/After Dark</u>	<u>N</u>
Entering Terms	63
Connecting Terms	55
Printing Citations	43
System Prompts	42
Error Messages	28
Database Menu	18
 <u>Search Helper</u>	
Entering Terms	13
Printing Citations	7
Database Menu	4
System Prompts	1
Error Messages	1

Many of the end users volunteered additional written comments which were generally very positive. The comments which most frequently were given are summarized in Table 15. The enthusiasm of the end users for the "Do-It-Yourself" service was evident from the written comments, the many verbal comments made to members of the staff, and the willingness of so many to return and wait in the queue for additional sessions. Comments were frequently directed at the 15 minute time limit; everyone wanted a longer period. In effect, we operated with a very generous 15 minutes, the proof of which is the average connect time of more than 19 minutes for all BRS/After Dark sessions. Several of the users stated that it would be useful to have more instruction and more time to get acquainted with the systems before actually using them. They proposed various methods: classes, short courses, more detailed manuals, more individual guidance in developing search strategies and selecting key words. There was a definite expression of a desire by some of the end users for specific instruction and additional experience in order to make their searching more beneficial.

Table 15
End User Comments

Type of Comment	Frequency	
	<u>After Dark</u>	<u>Search Helper</u>
Great system, excellent service, please continue	45	13
Good help from the staff	20	
Easy, user-friendly	5	
Has potential for being helpful		3
Satisfied if the articles can be found	4	
Need more terminals	3	
Need more instruction, provide more examples and explanations	20	
Experience helpful, second time easier	9	
Need help with logical connectors	5	
Difficult to make the search more specific	5	7
Citations didn't correspond to search terms	3	
Not enough time to search	22	
Had problems with printing citations	13	3
System response slow	11	
Had problems with being dropped by system	6	
Dissatisfied with 15 citation limit		6
Would like to be able to search more than one way before being disconnected		3

Correlation studies

In an attempt to determine if there were relationships between certain characteristics of the users--classification, previous experience with library services, previous experience with computers--and their perceived success with the systems, correlation analyses were conducted. Pearson's product moment correlation coefficients were determined using the statistical program, Microstat. Variables used included experience with each of the library services (Table 2), each type of computer experience (Table 2), the summed total of different types of library experiences (maximum of 8), the summed total of different types of computer experiences (maximum of 3), number of references retrieved with each search, percentage of relevant references retrieved with each search, the users' ratings of difficulty of each of the 5 aspects of the search process (Table 7), and the users' ratings of overall satisfaction (Table 13). Using only those user rating forms which were completely answered, there were 399 observations for BRS/After Dark searches and 152 observations for Search Helper sessions. Within the 2 different sets of observations, there appear to be

no statistically significant correlations between the users' classification or experience with library services/computers and their success as measured by either the number of references retrieved or the percentage of relevant references. Also, there were no correlations between the users' classification or experience with library services/computers and their overall satisfaction.

The existence of relationships between the users' ratings of overall satisfaction and degree of difficulty experienced with various aspects of the search process, previous experience with the end user systems, and references retrieved were also sought (Tables 16 and 17). Generally, a correlation coefficient of .500 (absolute value) is considered desirable in social sciences research to identify possible relationships. Statistically, a correlation of .195 is adequate with this number of observations to imply, at a 95% confidence level, possible relationships. At a 99% confidence level, .254 is adequate.

Table 16
Correlation of End User Ratings, Experience,
and References Retrieved
BRS/After Dark
(N = 399)

<u>Overall Satisfaction</u>	Absolute Value of Correlation Coefficient
Relationships which may be implied:	
Higher with higher percentage of relevant references	.433
Higher with greater number of references	.239
Lower with more difficulty in zeroing in on relevant references	.418
Lower with more difficulty in choosing keywords	.383
Lower with more difficulty in using logical connectors	.376
Lower with more difficulty in operating the terminal	.353
Lower with more difficulty in choosing databases	.254
No correlation with:	
Previous experience with the system	.070

Table 16 (Continued)

Number of References Retrieved

Relationships which may be implied:	
Greater with previous experience with the system	.479
Greater with higher overall satisfaction	.239
Lower with more difficulty in using logical connectors	.199
Lower with more difficulty in choosing keywords	.196
No correlation with:	
Difficulty in zeroing in on relevant references	.174
Difficulty in operating the terminal	.143
Percentage of relevant references	.142
Difficulty in choosing databases	.119

Percentage of Relevant References Retrieved

Relationships which may be implied:	
Higher with higher overall satisfaction	.433
Lower with more difficulty in zeroing in on relevant references	.347
Lower with more difficulty in choosing keywords	.306
Lower with more difficulty in using logical connectors	.260
No correlation with:	
Difficulty in choosing databases	.156
Number of references retrieved	.142
Difficulty in operating the terminal	.141
Previous experience with the system	.112

Previous Experience with the System

Relationships which may be implied:	
Greater number of references with previous experience	.479
Less difficulty in using logical connectors with previous experience	.241
Less difficulty in operating the terminal with previous experience	.201
No correlation with:	
Difficulty in choosing databases	.172
Difficulty in choosing keywords	.170
Difficulty in zeroing in on relevant references	.165
Percentage of relevant references retrieved	.112
Overall satisfaction	.070

Table 17
Correlation of End User Ratings, Experience,
and References Retrieved
Search Helper
(N = 152)

<u>Overall Satisfaction</u>	Absolute Value of Correlation Coefficient
Relationships which may be implied:	
Higher with higher percentage of relevant references	.521
Higher with greater number of references	.197
Lower with more difficulty in zeroing in on relevant references	.468
Lower with more difficulty in choosing keywords	.250
No correlation with:	
Difficulty in operating the terminal	.179
Difficulty in choosing databases	.160
Previous experience with the system	.114
<u>Number of References Retrieved</u>	
Relationships which may be implied:	
Greater with higher percentage of relevant references	.226
Greater with higher overall satisfaction	.197
No correlation with:	
Previous experience with the system	.114
Difficulty in operating the terminal	.076
Difficulty in choosing databases	.059
Difficulty in choosing keywords	.040
Difficulty in zeroing in on relevant references	.021
<u>Percentage of Relevant References Retrieved</u>	
Relationships which may be implied:	
Higher with higher overall satisfaction	.521
Higher with greater number of references retrieved	.226
Lower with more difficulty in zeroing in on relevant references	.200
No correlation with:	
Difficulty in choosing databases	.132
Difficulty in operating the terminal	.088
Difficulty in choosing keywords	.038
Previous experience with the system	.022

Table 17 (Continued)

Previous Experience with the System

Relationships which may be implied:

Less difficulty in zeroing in on relevant references with previous experience	.207
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No correlation with:

Difficulty in operating the terminal	.150
Difficulty in choosing keywords	.138
Number of references retrieved	.114
Difficulty in choosing databases	.089
Percentage of relevant references retrieved	.022

Staff involvement

No library program, regardless how user-friendly it may be, is ever implemented without staff effort. Normal increases in staff workload can be expected with the addition of any new reference service. The introduction of end user searching, however, it was felt might place extraordinary demands on staff members already well occupied at the reference desk. Not only would they be required to use new online systems, but they also would have to master them to the extent that they could assist patrons in their use and troubleshoot both system and human problems. These are not skills by any means alien to traditional desk service, but the new role for many staff in relation to computer technology and the heightened expectations of patrons that might be anticipated were considered to be elements that would tend to increase stress among staff. A major element in the design of this project, therefore, was to assess the impact of the end user operated literature searching systems on staff resources. Because the investigators felt that the introduction of any new service into a library's program could create a significant new demand on staff time, the research design was structured in such a way as to minimize any disproportionate demands on staff that end user searching might produce. To that end, the investigators chose to do no campus-wide publicity of the service, but rather, to treat After Dark and Search Helper as if they were systems that were long-established parts of the Library's reference service. With the potential adverse impacts of a new service thus minimized, the investigators hoped to measure the effects such services can be expected to have on reference staff on a continuing basis--that is, after the "new" wears off.

In order to gather this information, a form was designed to collect staff data. It contained a short log for recording sign-on and sign-off times and blanks for other information necessary for queuing users during times when the service was offered. In addition, staff members were asked to record how much time they spent helping users during the course of their sessions (pre-search to post-search interactions), how many times they were required to help during the search, and the nature of the assistance which they provided. Finally, they were asked to respond on Likert scales to four questions assessing each user's performance. A copy of that form is appended to this report (Appendix 5).

All of the full time staff who regularly work at the reference desk had previously received extensive online training for ready reference purposes. The training of the staff to use the end user services, therefore, was limited to the instructional and practice sessions previously described. Given the level of familiarity with online systems common in the reference staff at Texas A&M, these sessions proved to be quite satisfactory. Whether this level of training would be adequate for a staff less thoroughly trained in searching techniques is unknown.

Reference staff, both professional and non-professional, performed three functions during the data collection period. As traffic controllers, they handed out search request forms and maintained the queue of users each evening. As technicians, they were responsible for controlling Search Helper passwords, logging patrons on to the After Dark system, maintaining session statistics, and resolving equipment problems. As consultants, they advised users about choosing appropriate databases, drafting effective search strategies, and correcting problems that occurred during search sessions.

At the outset of the data collection period, the investigators asked reference staff to handle the details of the end user sessions just as all other requests coming to the desk. Because of problems arising from the physical arrangement of equipment in the reference area and because of the heavy patron load on weekday evenings, this arrangement proved very quickly to be unsatisfactory. Therefore, by March, staff assignments were adjusted in order to have one person stationed in the computer terminal area on evenings when the services were available. This arrangement proved to be much more satisfactory both in reducing staff frustration and in providing timely assistance to patrons.

Precise statistics were not maintained to document fully changes in the kinds of advice staff were asked to provide. Significant numbers of incidents were reported, however, to suggest that as users became more familiar with the systems, they started to call on staff for help in improving search results. In response to these requests, staff provided both

information regarding the choice of databases and advice on improving search strategies. As the questions became more sophisticated some of the staff began to have difficulty in responding to the expressed needs and, at that point, began to rely somewhat more heavily on the expertise of trained search intermediaries. Throughout the test period, however, the number of questions most staff could not handle was small.

During the data collection period, staff members completed 523 forms for After Dark searches and 184 forms for Search Helper sessions. Total staff time requirements recorded on these forms were 40.40 hours for After Dark (average of 4.64 minutes/sessions) and 8.35 hours for Search Helper (average of 2.72 minutes/session). Staff were required to provide assistance 1298 times during After Dark sessions (1.6 times/session) and 255 times during Search Helper sessions (0.9 times/sessions). Tables 18 and 19 summarize the types of assistance to patrons that were reported by the staff for each of the systems.

Table 18
Types of Staff Assistance
Required During After Dark Sessions

	<u>Frequency</u>	<u>Percentage</u>
Choice of database	137	10.6
Topic	132	10.2
Machine operation	286	22.0
Boolean logic	286	22.0
System commands	341	26.3
Logoff	75	5.8
Other (unspecified)	41	3.2

Table 19
Types of Staff Assistance
Required During Search Helper Sessions

	<u>Frequency</u>	<u>Percentage</u>
Choice of database	56	22.0
Topic	64	25.1
Machine operation	73	28.6
System commands	43	16.9
Other (unspecified)	19	7.5

After reporting on the type of assistance rendered each user during a search, staff then expressed their opinions on four aspects of the user's experience and performance: 1) the user's experience with related information tools and technology,

2) the user's ability to operate computer keyboards, 3) the user's ability to use the online systems in general, and 4) the user's overall enthusiasm for this process. The results are summarized in Tables 20 to 23. In addition to overall ratings, the staff's mean ratings for four subcategories of users were considered. Significant increases in staff ratings are to be noted between first-time and repeat users, indicating that staff could sense in repeat users an increased facility with the systems and an increased level of enthusiasm for the process. These findings parallel similar reports from the users themselves. Two other categories were considered significant as a check on the staff assessment of user difficulties. Users who reported little experience with printed indexes and/or microcomputers and users who expressed lower than average satisfaction with the service were also uniformly ranked lower than average by the staff in these four areas for BRS/After Dark searches. The pattern is broken somewhat for Search Helper sessions in that staff ratings for those with little microcomputer experience were rated slightly higher than the overall average for factors 2, 3, and 4.

Table 20
Average Staff Ratings of End Users'
Experience With Use of Indexes
(Scale: 1 = Inexperienced to 5 = Very Experienced)

	<u>After Dark</u>		<u>Search Helper</u>	
	<u>N</u>	Rating	<u>N</u>	Rating
All searches	445	3.69	134	3.45
First time use	222	3.27	94	3.15
Repeat use	223	4.11	40	4.15
User-reported inexperience with printed indexes	104	3.43	21	3.00
User-reported dissatisfaction	94	3.07	33	3.21

Table 21
Average Staff Ratings of End Users'
Familiarity With Keyboards/Terminals
(Scale: 1 = Inexperienced to 5 = Very Experienced)

	<u>After Dark</u>		<u>Search Helper</u>	
	<u>N</u>	<u>Rating</u>	<u>N</u>	<u>Rating</u>
All searches	505	3.66	164	3.66
First time use	243	3.19	110	3.38
Repeat use	262	4.10	54	4.24
User-reported inexperience with microcomputers	153	3.12	70	3.69
User-reported dissatisfaction	107	3.02	37	3.41

Table 22
Average Staff Ratings of End Users'
Ability to Use the System
(Scale: 1 = Very Frustrated to 5 = Very Successful)

	<u>After Dark</u>		<u>Search Helper</u>	
	<u>N</u>	<u>Rating</u>	<u>N</u>	<u>Rating</u>
All searches	507	3.85	164	4.02
First time use	246	3.40	111	3.86
Repeat use	261	4.27	53	4.38
User-reported inexperience with printed indexes	117	3.68	28	3.64
User-reported inexperience with microcomputers	153	3.54	69	4.09
User-reported dissatisfaction	106	3.07	37	3.59

Table 23
Average Staff Ratings of End Users'
Enthusiasm for Online Searching
(Scale: 1 = Highly Critical to 5 = Very Enthusiastic)

	After Dark		Search Helper	
	<u>N</u>	Rating	<u>N</u>	Rating
All searches	502	4.22	157	4.20
First time use	244	3.99	106	4.09
Repeat use	258	4.45	51	4.41
User-reported inexperience with printed indexes	115	4.06	28	3.93
User-reported inexperience with microcomputers	151	4.02	67	4.24
User-reported dissatisfaction	94	3.07	35	3.63

The ratings for searches which required considerably more staff time than the average search time were analyzed (Table 24). These include all After Dark searches which required 9 or more minutes and Search Helper sessions which required 5 or more minutes of staff time. The staff ratings were significantly lower in all categories except for the assessment of the end users' enthusiasm for online searching. The users for whom significantly more staff time was involved indicated through their ratings considerably more difficulty with all aspects of the search process. The end users' overall satisfaction was also considerably lower if more staff time was required. However, from the comments and observations, it is probable that if this staff time had not been spent, these end users would have been even less satisfied with the experience.

Table 24

Rating Changes with Extensive Staff Assistance

Staff Ratings of Users

	<u>After Dark</u>			<u>Search Helper</u>		
	<u>N</u>	Rating	% Lower	<u>N</u>	Rating	% Lower
Experience with use of indexes	82	2.98	19.2	39	2.87	16.8
Familiarity with keyboards/terminals	88	2.73	25.4	44	3.20	12.6
Ability to use the system	89	3.04	21.0	45	3.58	10.9
Enthusiasm for online searching	88	3.95	6.4	43	4.05	3.6

User Ratings of Difficulty

	<u>N</u>	Rating	% Higher	<u>N</u>	Rating	% Higher
Operating the terminal	91	1.87	24.7	46	1.35	14.1
Choosing an appropriate database	91	1.68	20.9	46	1.80	22.1
Choosing appropriate keywords	91	2.45	20.7	46	2.07	21.8
Zeroing in on relevant references	88	2.77	26.5	42	2.45	28.3
Using the proper logical connectors	73	2.42	29.4			

Staff were also encouraged to provide additional comments regarding search sessions. Among the 282 volunteered comments on staff forms, the greatest number related to equipment and system problems. Among the other comments, several themes emerged. For example, a significant number of patrons were, the staff felt, unable or unwilling to follow system instructions or in fact wanted the staff to do all the work for them. In contrast, the staff also had to deal with a number of overenthusiastic searchers, who, having done their own search, then proceeded to advise others (frequently badly). In most instances, however, staff indicated that end users were quite capable of dealing with the systems after a minimal amount of experience. The fully interactive capabilities of the After Dark system appear, however, to have made those sessions somewhat more fruitful per dollar invested than the Search Helper system.

Follow-Up study

After the formal data collection period ended, the investigators conducted a brief follow-up study of users. The aim of this study was threefold: 1) to ascertain the reliability of the users' initial evaluations of the systems, 2) to gather their opinions regarding various methods for pre-search training, and 3) to determine their reactions to search costs. Thirty users were contacted either by telephone or through the mail between June and October, 1984. A copy of the follow-up questionnaire can be found in Appendix 7.

Responses to the first three questions in the follow-up survey confirmed both that users were satisfied with their search products and that the search process itself was one that users felt they could master easily. The first question asked in what ways the service benefitted the user. Responses focused on time savings and the number of new sources the systems were able to provide to assist with research. Question two, asking about problems users had with the systems, elicited responses which echo the reports in the questionnaires filled out immediately following the search. Of the 30 responses to this question, 13 (43%) indicated no problems at all; of that group 5 indicated that the library staff had been very helpful in the process, thereby precluding problems that might have occurred otherwise. Eight (27%) said that choosing appropriate terms and grouping them in a profile was most troublesome. Four respondents (13%) talked about problems with databases (duplication of records, insufficient coverage, etc.) System operation and the insufficiency of time allotted to each user came in for comment by 3 users each (10%).

Question three sought information from users regarding their repeat use or lack of repeat use of the systems. Among the 12 one-time users surveyed, the vast majority (67%) stated that they had no need to do another search during the test period. The long lines to use the systems, which were typical during the spring semester, deterred 1 user, while the 15 minute time limit kept another away from repeat use. A third user who would have used the service again did not when a staff member got confused regarding which online service was being requested and gave the user information about the fee-based mediated service. While the lack of repeat use does not stem from dissatisfaction with the systems--and indeed the level of repeat use was quite high--the reasons stated for not returning indicate that scheduling, time limits, and staff training are factors that can adversely affect the utilization of end user systems.

Repeat users were asked both what encouraged them to return and whether they felt that their effectiveness improved with increased use. The simplicity of the systems and the usefulness of the resulting bibliographies were the two reasons cited by virtually all the repeat users. With but one exception, the

repeat users expressing an opinion felt that their effectiveness increased during subsequent sessions, indicating that the learning time required for these sessions is quite short.

Questions four through six solicited user reaction to various methods for providing training to end users. Overall interest in a class on effective use of end user systems was medium to high. When asked whether they thought their search results would have been better during the test period had a training session been made available, users were divided. While 56% of them said that they felt such a session would have helped them, 44% either felt more extensive training would not have helped them or were uncertain as to its potential value. When asked about the effect of such a class as a requirement for gaining access to the service, 63% of the users indicated that they would not have been deterred, while 30% were uncertain about whether they would have been deterred from using the service. Only 7% of the users indicated that a required training session definitely would have kept them away from the service.

When asked about their preferences for training methods, users seemed to prefer lectures by a slight margin (39% of all users responding), but preferences for the other options were also strong. A workbook approach was preferred by 29% of users, while 18% each preferred either slide/videotape training or a computer assisted program.

The final three questions addressed issues of time limitations and costs associated with offering an end user system in the future. Users were asked what they felt to be a reasonable time limit on the system. The test period limit of 15 minutes was felt to be adequate by 39% of users, while 36% felt that at least 20 minutes was necessary and the remaining 25% felt that a minimum of 25 to 30 minutes was needed.

Finally, users were queried regarding their perceptions about the cost of providing end user searching. Initially, users were asked to react to the statement that the average cost for each search was \$4. That amount was judged to be just about right by 53% of respondents; 20% felt that figure to be too high, and 23% either were uncertain about its rectitude or expressed no opinion. Only one user felt the amount too low. Investigators then sought user reaction to the levying of a fee to recover part of the cost for the service, so the final question asked users whether they would have tried the systems had a \$3 fee been assessed for each session. The following table summarizes the responses:

Table 25
User Reaction to \$3 Fee-for-Service

	<u>Would Use</u>	<u>Would Not Use</u>	<u>Uncertain</u>
All users	17 (58%)	8 (27%)	5 (15%)
Users judging \$4 cost right	12 (75%)	2 (13%)	2 (13%)
Users judging \$4 cost high	2 (40%)	3 (60%)	0
Users judging \$4 cost low or expressing no opinion	3 (38%)	2 (25%)	3 (38%)

While a majority of users would not have been deterred by a \$3 fee, a substantial percentage of users, it seems, would have been put off by such a fee. Even very modest fees, therefore, would seem to have a chilling effect on the use of end user services.

Conclusions

Based on the experience gained in the project, the investigators have concluded that library patrons can successfully use both of the literature searching systems tested. The greatest interest in the services seems to be among upper division and graduate students. Interest among faculty seems virtually nil, perhaps reflecting more faculty work habits than any particular antipathy to the systems themselves. Users were able to master the rudiments of system operation quickly with minimal instruction. System prompts plus simplified at-the-terminal aids were sufficient to guide most users through to a satisfactory result. Interest was generally high, however, in additional methods of providing guidance in effective use of the online information services.

Insofar as the two systems themselves are concerned, the investigators have concluded that the interactive system, BRS/After Dark, is the more user-friendly of the two systems tested. Search Helper was indeed a system which the users found to provide helpful information, and users sensed no significant problems in operating the equipment. Yet staff could determine that the logic imposed on search elements by the Search Helper software was the cause of many unsuccessful attempts by users (hence its higher cost). Given the approach taken during this test project, users were unable to diagnose and correct problems with Search Helper as easily as they could with After Dark. It appears as if successful implementation of the Search Helper system will require more extensive pre-search assistance from staff than was provided in this project.

Average costs of end user searches (as defined in the project) are substantially lower than those typical in mediated services. The scope and purpose of searches done in mediated services are usually quite different from those undertaken by end users, but the project demonstrates that there is a substantial level of responsibility for online information retrieval which can be thrust onto patrons and the cost for doing this is relatively modest. The potential for expanding the population served by online services is great because the low cost offers opportunities to those who are unlikely to be attracted to similar fee-based services. With systems such as these it is possible for libraries to start contemplating offering online access without direct charge to patrons or at prices far below what has been the case in years past.

It seems clear that although the services will require staff to be actively involved in the administration of end user services, the level of staff required to provide adequate service is not out of the range of possibility for at least moderately staffed libraries. It also seems necessary, before end user systems are made available in libraries, that there be a reassessment of the assignment of staff to provide support for the end user searchers. It is unlikely that offering end user services can be absorbed as yet another service from the reference desk. Additional investigation is needed, however, on the best methods of providing users with pre-search experiences, some of which may also help reduce the requirements for staff intervention.

The role that staff have in providing end user searching is one that most staff should have little difficulty in fulfilling. Tasks such as recordkeeping, system security, basic system instruction and advice regarding database content are little different from many of the tasks traditionally performed at the reference desk. The areas requiring additional expertise--and therefore more staff training--are in the specific structure of databases and in search strategy construction. The former tasks are very likely ones which could be provided by non-professional staff or even adept students, while the latter tasks are likely to rely more heavily on professional staff with online skills and training who could be called on as needed.

As information systems continue to evolve over the next decade, end user operation is likely to continue to develop. This project has demonstrated that library patrons in a medium-sized academic library are eager to use this new technology and are quite capable of conducting searches that provide satisfying results. Based on these findings, librarians need not fear these systems: in the same way that mediated online services have served to enhance the overall quality of reference service, the advent of user-operated systems should serve to broaden the abilities of patrons and library staff to utilize the rich information resources now available.

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SEARCH TIPS

1. Search Helper will only print the 15 most current references.
2. Enter only one word at a time unless you are searching the Place category, which accepts multiple words (e.g. New Orleans).
3. Four categories may be searched: Place, Person, Subject, and Brand Name in six subject oriented databases. (See instructions at terminal)
4. Variant forms of a word may be retrieved by using the question mark (?) as a truncation symbol after a word stem. DRIV? will search for DRIVE, DRIVER, DRIVING, and DRIVEL.
5. To search for a subject consisting of more than one word, follow the directions on the screen and enter ONLY ONE WORD at a time.
6. Additional words may be added to the search after entering the two search words allowed per category by simply choosing the category again and adding the desired words. Categories may also be combined in the same manner.
7. Avoid being too specific. No more than 3-4 words should be entered per topic.
8. Do not use articles (a, the, etc.) or conjunctions (and, but, etc.) unless as part of a title.
9. Use the most specific term possible for a subject.

PLANNING THE SEARCH

Topic Statement:

1st word of subject/name

2nd word of subject/name

Additional words

Sample Profiles:

1. Topic Statement: Television advertising and children

1st word of subject
Television

2nd word of subject
Advertis?

Additional words
Children

2. Topic Statement: Anne Burford and the EPA

Category: Person

1st name of person
Anne

2nd name of person
Burford

Category: Subject

1st word of subject
Environment?

2nd word of subject
Protection

Since your time at the terminal will be limited, you may want to use this search planner to organize
the query ahead of time:

LOGICAL CONNECTORS



OR

(Broadens search)



AND (same citation)
SAME (same paragraph)
WITH (same sentence)

(Narrows search)



NOT

(Narrows search)

SEARCH TIPS:

1. Include common synonyms and spelling variations to insure thorough coverage.
2. Additional forms of words can be retrieved by use of truncation (\$) after a word stem, for example, MANAG\$ will search for MANAGER, MANAGERS, MANAGING, MANAGEMENT, etc. (See instructions by terminal.)
3. Focus results by a) adding extra concept groups and/or b) restricting terms to occurrences in specific fields such as .Ti. (title) or .DE. (descriptors). (See instructions by terminal.)

STOP WORDS

Certain common words are not searchable. Here is a partial list:

A	Or
All	Same
An	Some
And	That
Are	The
At	Through
Be	Toward
Buy	Upon
By	Used
For	Using
From	Was
If	Were
In	Which
Made	While
Many	Who
More	Will
No	With
Not	Within
Of	Would
On	

TOPIC STATEMENT:

Concept 1

Concept 2

Concept 3

LOGICAL COMBINATIONS:

SAMPLE SEARCH PLAN:

Topic Statement: Use of computers in medical diagnosis

Concept 1

Concept 2

Concept 3

Computer\$

Medical\$

Histor\$

OR

OR

OR

Microcomputer\$

Medicine

Diagnos\$

OR

Online System\$

LOGICAL COMBINATIONS:

1 AND 2 AND 3 (Broad, terms in the same citation)

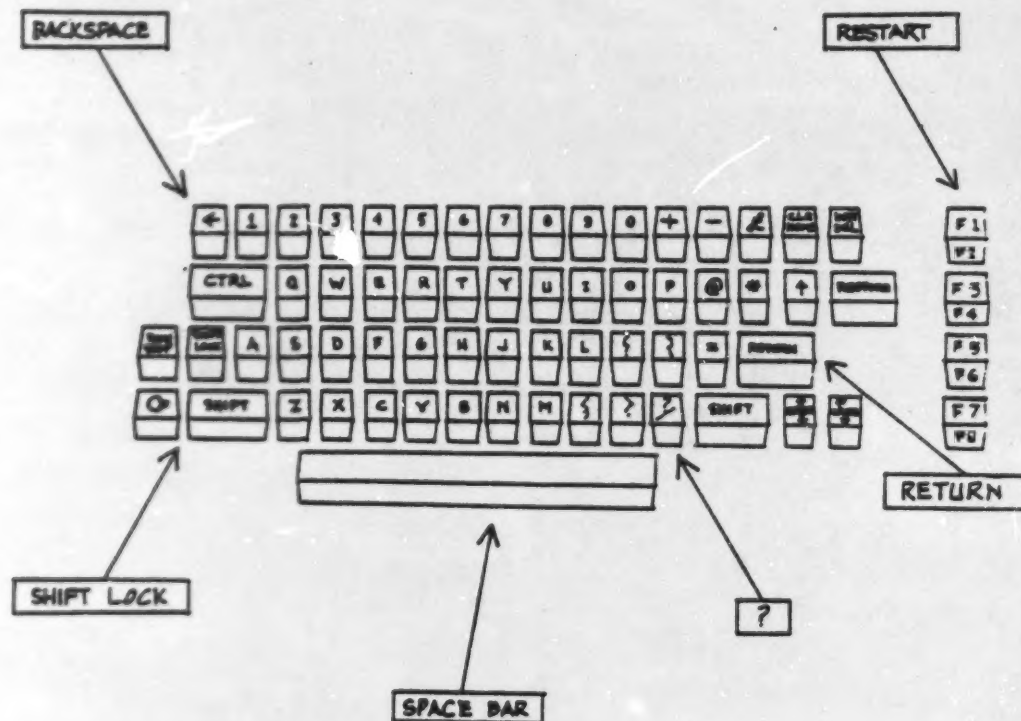
1 SAME 2 SAME 3 (Narrower, terms in the same paragraph or field)

1 WITH 2 WITH 3 (Narrowest, terms in the same sentence)

Appendix 3 Flip Chart for Search Helper

IN ADDITION TO THE STANDARD ALPHANUMERIC KEYS ON THE KEYBOARD, THERE ARE SIX KEYS THAT PERFORM SPECIAL FUNCTIONS:

1. THE **RETURN** KEY TRANSMITS YOUR RESPONSES TO THE COMPUTER: IT SHOULD BE PRESSED WHEN SO INDICATED ON THE SCREEN.
2. THE **F-1** OR "RESTART" KEY ALLOWS YOU TO RETYPE YOUR SEARCH OVER IF YOU HAVE MADE A MISTAKE OR WISH TO CHANGE THE WORDS THAT YOU HAVE ENTERED FOR SEARCHING. THIS KEY MUST BE PRESSED BEFORE SEARCH HELPER BEGINS SEARCHING (I.E., BEFORE A CHOICE OF DATABASES OR CATEGORIES HAS BEEN MADE).
3. USE THE **←** OR "BACKSPACE KEY TO CORRECT MISSPELLINGS. BACKSPACE TO THE INCORRECT CHARACTER AND RE-TYPE THE WORD OR CHARACTER.
4. THE **?** OR "TRUNCATE" KEY CAN BE USED TO SEARCH FOR SINGULARS AND PLURALS AT THE SAME TIME; E.G. COMPUTER? WILL SEARCH FOR "COMPUTER" AND "COMPUTERS" AT THE SAME TIME.
5. SHIFT LOCK. THIS KEY SHOULD ALWAYS BE UP. IF IT IS DEPRESSED, YOU WILL BE UNABLE TO TYPE NUMBERS.
6. THE SPACE BAR IS USED TO INSERT BLANKS IN YOUR TYPE, JUST AS IT IS ON A STANDARD TYPEWRITER KEYBOARD.



SUBJECT

1. TYPE IN ONLY ONE WORD AT A TIME.
2. IF A SUBJECT HAS MORE THAN ONE TERM, USE THE MOST DISTINCTIVE TERM POSSIBLE.
3. WHEN A SUBJECT CONSISTS OF MORE THAN ONE WORD ENTER IT ONE WORD AT A TIME. E.G. SUPPLY SIDE ECONOMICS SHOULD BE ENTERED AS FOLLOWS.
1ST WORD OF SUBJECT: SUPPLY
2ND WORD OF SUBJECT: SIDE
WHEN THE SYSTEM ASKS WHETHER YOU WANT TO ADD ANOTHER PERSON, PLACE, OR SUBJECT, ETC. CHOOSE THE SUBJECT OPTION AND ENTER:
1ST WORD OF SUBJECT: ECONOMICS
4. DO NOT BE TOO SPECIFIC WITH SUBJECTS. NO MORE THAN THREE OF FOUR WORDS SHOULD BE ENTERED.
5. USE THE (?) TRUNCATION SYMBOL AFTER THE STEM OF THE WORD TO RETRIEVE VARIANT FORMS OF WORDS. E.G. COMPUTER? WILL RETRIEVE COMPUTERS, COMPUTER, COMPUTERIZATION, ETC.
6. TO FIND REVIEWS OF BOOKS, MUSIC, MOVIES, ETC. ENTER THE MOST DISTINCTIVE WORD(S) AND ADD THE WORD REVIEW.
7. DO NOT USE THE APOSTROPHE WHEN ENTERING A WORD, INSTEAD CHANGE THE 'S TO THE TRUNCATION SYMBOL. E.G. SOPHIE'S CHOICE SHOULD BE ENTERED AS SOPHIE? CHOICE.

EXAMPLE:

SUBJECT: REVIEW OF THE BIG CHILL

SCREEN DISPLAY
TYPE THE FIRST WORD
OF YOUR SUBJECT:

YOU ENTER

THEN PRESS RETURN

BIG _____

TYPE THE SECOND WORD
OF YOUR SUBJECT:

THEN PRESS RETURN

CHILL _____

SELECT THE SELECT OPTION AGAIN WHEN PROMPTED TO DO SO.

TYPE THE FIRST WORD
OF YOUR SUBJECT:

REVIEW? _____

THEN PRESS RETURN

THIS SEARCH SHOULD RETRIEVE ALL ARTICLES FOUND IN THE CHOSEN DATABASE
REVIEWING THE BIG CHILL.

PERSON

1. TYPE IN ONLY ONE WORD AT A TIME.
2. TYPE THE PERSON'S FIRST NAME WHEN PROMPTED TO DO SO.
3. TYPE THE PERSON'S SECOND NAME WHEN PROMPTED TO DO SO.
4. TO SEARCH FOR A NAME WITH INITIALS, DO NOT TYPE THE PERIODS.
E.G. R.L. JONES SHOULD BE ENTERED AS R L JONES WITH SPACES
BETWEEN THE INITIALS INSTEAD OF PERIODS.

EXAMPLE:

PERSON: ANNE BURFORD

SCREEN DISPLAY:

TYPE THE PERSON'S
FIRST NAME:

THEN PRESS RETURN

TYPE ANNE'S
LAST NAME

THEN PRESS RETURN

YOU ENTER:

ANNE _____

BURFORD _____

THIS SEARCH SHOULD RETRIEVE ALL ARTICLES FOUND IN THE CHOSEN DATABASES
CONCERNING ANNE BURFORD.

PLACE

1. THE PLACE CATEGORY ACCEPTS MULTIPLE WORDS.
2. USE THE MOST DISTINCTIVE NAME; FOR EXAMPLE, IF YOU WANT INFORMATION ON SAN FRANCISCO, ENTER SAN FRANCISCO, NOT CALIFORNIA.
3. VARIOUS KINDS OF PLACES MAY BE SEARCHED, E.G. NEW YORK CITY, JOHNSON SPACE CENTER, YALE UNIVERSITY, ETC.

EXAMPLE:

PLACE TO BE SEARCHED: NEW ORLEANS

SCREEN DISPLAY

YOU ENTER

TYPE THE NAME OF
THE PLACE:

NEW ORLEANS

(MULTIPLE WORDS OK
THEN PRESS RETURN)

THIS SEARCH SHOULD RETRIEVE ALL ARTICLES FOUND IN THE CHOSEN DATABASE CONCERNING NEW ORLEANS.

BRAND NAME

1. TYPE IN ONLY ONE WORD AT A TIME.
2. IF A BRAND NAME HAS MORE THAN ONE WORD, USE ONLY THE MOST DISTINCTIVE WORDS TO SEARCH. E.G. IBM PERSONAL COMPUTER COULD BE SEARCHED USING THE WORDS IBM AND PERSONAL.
3. TO RETRIEVE ONLY EVALUATIONS OF BRAND NAMES, COMBINE THE BRAND NAME WITH A SUBJECT SEARCH AND THE TERM EVALUATION AS THE "FIRST WORD OF THE SUBJECT"

EXAMPLE:

BRAND NAME: HONDA CIVIC AND EVALUATION

SCREEN DISPLAY:

TYPE THE FIRST WORD
OF THE BRAND NAME:

HONDA

THEN PRESS RETURN

TYPE THE SECOND WORD
OF THE BRAND NAME:

CIVIC

THEN PRESS RETURN

SELECT THE SUBJECT OPTION WHEN PROMPTED

TYPE THE FIRST WORD
OF THE SUBJECT

EVALUATION

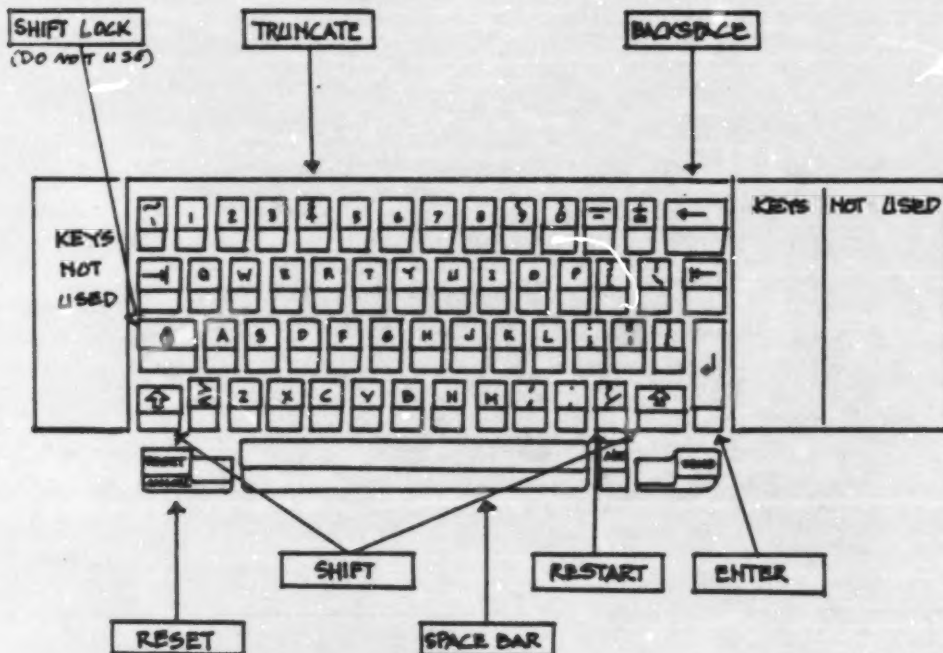
THEN PRESS RETURN

THIS SEARCH SHOULD RETRIEVE ALL ARTICLES FOUND IN THE CHOSEN DATABASE
EVALUATING THE HONDA CIVIC.

Appendix 4 Flip Chart for BRS/After Dark

IN ADDITION TO THE STANDARD ALPHANUMERIC KEYS ON THE KEYBOARD, THERE ARE SIX KEYS THAT PERFORM SPECIAL FUNCTIONS.

1. THE **ENTER** KEY TRANSMITS YOUR RESPONSES TO THE COMPUTER; IT SHOULD BE PRESSED WHEN RESPONDING TO A SYSTEM INQUIRY.
2. THE **?** OR "RESTART" KEY ALLOWS YOU TO RETYPE YOUR SEARCH OVER IF YOU HAVE MADE A MISTAKE OR WISH TO CHANGE THE WORDS THAT YOU HAVE ENTERED FOR SEARCHING.
3. USE THE **←** OR "BACKSPACE" KEY TO CORRECT MISSPELLINGS. BACKSPACE TO THE INCORRECT CHARACTER AND RETYPE THE WORD OR CHARACTER.
4. THE **\$** OR "TRUNCATE" KEY CAN BE USED TO SEARCH FOR SINGULARS AND PLURALS AT THE SAME TIME; e.g. COMPUTERS WILL SEARCH FOR "COMPUTER" AND "COMPUTERS" AT THE SAME TIME.
5. SHIFT LOCK. **↑** THIS KEY SHOULD ALWAYS BE UP AND SHOULD NEVER BE USED. IF IT IS DEPRESSED, IT WILL LOCK THE KEYBOARD.
6. THE **RESET** KEY MUST BE PRESSED TO UNLOCK THE KEYBOARD IF YOU HAVE PRESSED THE SHIFT LOCK.
7. THE SPACE BAR IS USED TO INSERT BLANKS IN YOUR TYPE, JUST AS IT IS USED



COMMANDS

S	TO CONTINUE SEARCHING
P	TO PRINT ITEMS FOUND
R	TO REVIEW SEARCH QUESTIONS
M	TO RETURN TO MASTER MENU
D	TO RETURN TO DATABASE MENU
O	TO SIGN OFF

ERROR CORRECTION

TYPING/ENTRY ERRORS:

BACKSPACE TO THE ERROR, CORRECT IT, & THEN TYPE THE REST OF THE SEARCH.

OR

ENTER A QUESTION MARK (?) FOLLOWED BY A CARRIAGE RETURN TO DELETE THE ENTIRE LINE.

SYSTEM ERRORS:

IF YOU ERR IN INSTRUCTING THE SYSTEM, IT WILL PRINT OUT A MESSAGE TELLING YOU WHAT YOU HAVE DONE WRONG AND ASKING YOU TO TRY AGAIN.

CONNECTORS AND PHRASES

OR	ANY ONE OR ANY NUMBER OF THE TERMS CAN BE ANYWHERE IN THE CITATION
AND	ALL TERMS MUST BE IN THE SAME CITATION
NOT	A TERM MUST NOT APPEAR ANYWHERE IN THE CITATION
SAME	TERMS MUST BE IN THE SAME PARAGRAPH OR FIELD, E.G. IN THE TITLE, OR IN THE DESCRIPTOR FIELD, OR IN THE ABSTRACT
WITH	TERMS MUST BE IN THE SAME SENTENCE

TO FIND A SPECIFIC PHRASE -- 2 OR MORE WORDS IN A SPECIFIC ORDER --

JUST TYPE IN THE PHRASE:

COMPUTER ASSISTED INSTRUCTION

IBM PERSONAL COMPUTER

TRS '80' (NUMBERS NEED TO BE DISGUISED BY SINGLE QUOTES)

MANAGEMENT OBJECTIVES (NOT MANAGEMENT BY OBJECTIVES BECAUSE OF
THE STOP WORD BY)

TRUNCATION \$ (DOLLAR SIGN)

IF A SINGLE SEARCH WORD DOESN'T YIELD ENOUGH REFERENCES, CONSIDER ENTERING A WORD STEM FOLLOWED BY A DOLLAR SIGN (\$).

ROBOT\$ FINDS: ROBOT, ROBOTS, ROBOTICS, ROBOTIC

USE TRUNCATION CAREFULLY AS IT IS VERY EASY TO GET UNEXPECTED RESULTS:

CAT\$ FINDS: CAT, CATS, CATER, CATABOLIC, CATATONIC ETC.

YOU MAY RECEIVE A MESSAGE TELLING YOU THAT THERE ARE MORE THAN 100 TERMS FOR THE WORD YOU TRUNCATED. IF SO, YOU HAVE THE FOLLOWING OPTIONS:

- 1) CONTINUE THE TRUNCATION BY ENTERING: WORD ORIGINALLY TRUNCATED, LEFT PARENTHESIS, LAST WORD PROCESSED ACCORDING TO THE MESSAGE, RIGHT PARENTHESIS, E.G.

S2-- MANAGE\$(MANAGERIAL) (CR)

- 2) REENTER TERMS WITH MORE LIMITED TRUNCATION, E.G.

MANAGER\$3 FINDS: MANAGER WITH UP TO 3 CHARACTERS FOLLOWING:
MANAGER, MANAGERS, MANAGERIAL

MANAGE\$2 FINDS: MANAGE, MANAGERS, MANAGED, MANAGES

IF YOU RECEIVE A "MORE THAN 100 TERM" MESSAGE AND IF YOU MODIFY THE TRUNCATION, YOUR NEXT SEARCH COMMAND SHOULD BE AN "OR" TO COMBINE THE RESULTS FROM THE VARIOUS TRUNCATION PROCESSES, E.G.

S1-- MANAGE\$
MORE THAN 100 TERMS FOR MANAGE\$
LAST TERM PROCESSED WAS MANAGERIAL

A1-- 356 ITEMS FOUND

ENTER COMMAND

s (CR)

S2-- MANAGE\$(MANAGERIAL) (CR)

A2-- 470 ITEMS FOUND

ENTER COMMAND

s (CR)

S3-- 1 OR 2

A3-- 435 ITEMS FOUND

FIELD QUALIFICATION

- A. TYPE A WORD OR PHRASE IMMEDIATELY FOLLOWED BY A PERIOD, THE TWO-LETTER FIELD ABBREVIATION, AND ANOTHER PERIOD.

MANAGEMENT.TI. FINDS: THE WORD "MANAGEMENT" IN TITLES ONLY

BANK\$.TI. FINDS: WORDS WHICH BEGIN WITH THE STEM "BANK"
IN TITLES ONLY

MICROCOMPUTER\$.TI,DE. FINDS: WORDS WHICH BEGIN "MICROCOMPUTER" IN
TITLES AND DESCRIPTORS

- B. IT IS POSSIBLE TO USE FIELD QUALIFICATION "AFTER THE FACT" BY
BACK REFERENCING, E.G.

S1-- BANK\$ (CR)

A1-- 3789 ITEMS FOUND

ENTER COMMAND

S (CR)

S2-- 1.TI. (CR)

A2-- 456 ITEMS FOUND

- C. FIELDS WHICH ARE MOST FREQUENTLY USEFUL:

AU AUTHOR/S

TI TITLE

SO SOURCE

YR YEAR OF PUBLICATION

DE DESCRIPTORS

PRINT FORMATS

SHORT (S)

AU LEE, B.
TI TRADE UNION ATTITUDES TO FLEXIBLE WORKING HOURS
SO INDUSTRIAL RELATIONS JOURNAL, VOL. 14, No.1, SPRING 1983, P.80-83

MEDIUM (M)

AU LEE, B.
TI TRADE UNION ATTITUDES TO FLEXIBLE WORKING HOURS
SO INDUSTRIAL RELATIONS JOURNAL, VOL. 14, No.1, SPRING 1983, P.80-83
DE INDUSTRIAL-RELATIONS; WORK-HOURS; FLEXTIME; TRADE-UNION;
ANALYSIS; TABLES; BIBLIOGRAPHY-7.

LONG (L)

AU LEE, B.
TI TRADE UNION ATTITUDES TO FLEXIBLE WORKING HOURS
SO INDUSTRIAL RELATIONS JOURNAL, VOL. 14, No.1, SPRING 1983, P.80-83
DE INDUSTRIAL-RELATIONS; WORK-HOURS; FLEXTIME; TRADE-UNION;
ANALYSIS; TABLES; BIBLIOGRAPHY-7.
AB FLEXTIME IS ANALYZED IN LIGHT OF TRADE UNION FUNCTIONS.
FLEXTIME HAS PROVEN PROBLEMATIC TO OVERTIME COMPENSATION AND
EIGHT-HOUR-DAY CONCEPTS. THE EFFECTS OF FLEXTIME ON FAMILY
LIFE ALSO BEAR RESEARCH. REGIONAL INDUSTRIAL RELATIONS FACTORS
TO BE CONSIDERED IN LIGHT OF FLEXTIME ARE: WORKERS AND REPRESENTATIVES ATTITUDES, ORGANIZATIONAL HISTORY, POWER CONTEXT,
WORK TIME STRUCTURING, AND NATIONAL UNION POLICY. TABLES
OF RELATED SURVEY DATA ARE INCLUDED.

NOTE: IN SOME DATABASES (HNRD and AARD, FOR EXAMPLE) THE LONG FORMAT RESULTS IN VERY LONG PRINTOUTS; THE SHORT AND MEDIUM FORMATS ARE, THEREFORE, RECOMMENDED FOR MOST PRINTING TASKS.

SHORTCUTS

DXXXX TO GO DIRECTLY TO A DIFFERENT DATABASE WITHOUT HAVING TO WAIT FOR THE LISTING OF THE DATABASE MENU; TYPE IN D FOLLOWED BY THE 4-LETTER LABEL FOR THE DATABASE TO WHICH YOU WISH TO CHANGE, E.G.

DBIOL, DERIC

PRINTING EACH PRINT COMMAND MUST INCLUDE:

1. THE COMMAND TO PRINT = P
2. THE FORMAT ABBREVIATION = S, M, OR L
3. THE SET NUMBER FROM WHICH THE PRINT IS TO BE DERIVED
4. THE RANGE OF REFERENCES TO BE PRINTED, E.G.
1-5 (PRINTS 1ST FIVE REFERENCES), 1 (PRINTS 1ST), ALL (PRINTS ALL REFERENCES IN THE SET)

YOU CAN STACK THE COMMAND WITH 1 ENTRY BY SEPARATING THE COMPONENTS WITH SEMICOLONS, E.G.:

P;4;s;1-4

TELLS THE COMPUTER TO PRINT FROM SET #4
IN SHORT FORMAT THE FIRST FOUR REFERENCES.

Appendix 5
End User Questionnaire

Name _____ Major/Dept _____
Address _____ Classification: Fr So Ju Sr Gr Fac/Staff

1. Which library services have you used in the past?

☐ Printed indexes	☐ Documents division
☐ OCLC terminals	☐ Microtext division
☐ ALIS terminals (catalog area)	☐ Learning Resources dept. (microcomputers)
☐ Interlibrary services	☐ Automated Information Retrieval Service

2. Check as many of the following statements as apply to you:

☐ I have used microcomputers before.
☐ I have used mainframe computers before.
☐ I own a microcomputer.
☐ I have used BRS/After Dark before.
☐ I have used IAC/Search Helper before.
☐ I have used Executive Information Service before.

3. Briefly state the topic of your search:

=====

AFTER your search session:

1. Which database(s) did you use? _____

2. How many citations were printed out? _____

3. How many of those citations appear relevant to your needs? _____

4. Did you have difficulty with any of the following:

☐ database menu	☐ entering terms
☐ error messages	☐ connecting terms (ignore if Search Helper was used)
☐ system prompts	☐ printing citations

5. Rate the following aspects of the search process: (circle number)

- a. operating the terminal
easy 1 2 3 4 5 difficult
- b. choosing an appropriate database
easy 1 2 3 4 5 difficult
- c. choosing appropriate keywords
easy 1 2 3 4 5 difficult
- d. using the proper logical connectors (ignore if Search Helper was used)
easy 1 2 3 4 5 difficult
- e. zeroing in on relevant references (i.e. making search more specific)
easy 1 2 3 4 5 difficult

6. Overall, how would you rate your satisfaction with this search session?

very satisfied 1 2 3 4 5 very dissatisfied

7. Other comments:

Staff Questionnaire

Time form received _____ Date _____
 Staff initials _____ Terminal Available? Yes No

LOG

Database	On	Off	Elapsed Time	Notes
	.	.		
	.	.		
	.	.		
	.	.		
	.	.		

STAFF TIME REQUIREMENTS (Minutes) [check at appropriate point on scale]

Pre-Search Explanations 0. . . .2½. . . .5. . . .7½. . . .10. . . .
 Explanations at Logon 0. . . .2½. . . .5. . . .7½. . . .10. . . .
 Explanations during Search 0. . . .2½. . . .5. . . .7½. . . .10. . . .
 Explanations after Search 0. . . .2½. . . .5. . . .7½. . . .10. . . .

Number of times help was required during the search (hashmarks):

Types of help provided (check as many as appropriate):

Pre-Search/Pre-Logon:

___ Choice of database
 ___ Topic
 ___ Machine operation
 ___ Boolean logic (BRS & EIS)
 ___ System commands
 ___ Other:

During Search:

___ Topic
 ___ Machine operation
 ___ Boolean logic (BRS & EIS)
 ___ System commands
 ___ Logging off
 ___ Other:

Rate User on the following aspects: (Circle) _____ Staff initials

- Experience with use of indexes
 Inexperienced 1 2 3 4 5 Very experienced; No opinion _____
- Familiarity with keyboards/terminal
 Inexperienced 1 2 3 4 5 Very experienced; No opinion _____
- Ability to use the system
 Very frustrated 1 2 3 4 5 Very successful; No opinion _____
- Enthusiasm for online searching
 Highly critical 1 2 3 4 5 Very enthusiastic; No opinion _____

Other comments:

DID YOU RETURN I.D.?

Appendix 6
Library Do-It-Yourself Publicity

TEXAS A&M UNIVERSITY/STERLING C. EVANS LIBRARY

Computer Help for the

LIBRARY DO-IT-YOURSELF

from SEARCH HELPER and BRS/AFTER DARK

(409) 845-5741

What Is It?

SEARCH HELPER and BRS/AFTER DARK are do-it-yourself computerized systems which search and retrieve bibliographic information according to your instructions. Literally millions of articles, journals, books, and reports may be searched for information pertaining to your particular interests. Subject areas include business, science and technology, medicine, education, psychology, news, patent information, social sciences and humanities. Online databases are the most effective means of retrieving information where two or three main ideas must be present in the same reference, a feat that may be difficult to accomplish in the corresponding printed index because of their lack of specificity.

SEARCH HELPER is directed toward more general and popular kinds of information. Coverage includes mainly newspapers, business sources and magazines. The system limits you to 15 citations per search.

BRS/AFTER DARK is more complex and includes greater coverage of research materials in the social sciences, natural sciences and medicine. In order to equalize access to the system, time limitations have been established.

Who Can Use It?

Anyone with a valid Texas A&M University faculty, staff, or student I.D. card may use this service.

How Do I Use It?

No computer experience is necessary. Just follow the directions on the screen, answer the questions as instructed, and the systems will do the rest. Reference staff will be available to help you if you encounter any difficulties in using either system.

When Can I Use It?

Both systems are available from Monday through Thursday 6 p.m. to 9 p.m. and Saturdays 9 a.m. to 5 p.m. Please check with the Reference Desk for assistance in using the systems.

These systems are being tested this semester through a research grant from the Office of Management Studies of the Association of Research Libraries with funds from General Electric Foundation

1-84

Appendix 7
Follow-up Study Questionnaire

NAME _____

DATE _____

1. In what ways did this service benefit you?
2. What problems did you have with this service?
3. A. Our records indicate that you used the system more than once. What did you like about it that encouraged you to use the system again?

Do you feel effectiveness improved with increased use?

- B. Our records indicate that you used the system only one time. Was there any particular reason you did not use it again?
4. What level of interest would you have in a class on effective use of systems such as BRS/After Dark and Search Helper?
High _____ Medium _____ Low _____
5. The library is considering offering this service in the Fall and requiring that first time users attend a half-hour training session.
 - A. Do you think your results would have been better if such training had been available this spring?
Yes _____ No _____ Uncertain _____
 - B. Would you have used the system if you had been required to attend such a session?
Yes _____ No _____ Uncertain _____
6. Training can be provided in a number of ways such as a self-paced manual/workbook, slide-tape or videotape presentation, a training diskette that one would use on a micro, lectures from library staff, etc. Which one of these methods would you prefer?
a. workbook b. slide/videotape c. diskette d. lecture
7. For our pilot project we established a 15 minute limit. If the service is continued, a time limit will still be necessary. What do you think is a reasonable length of time for a search session? _____
8. The average cost per search session was \$4. This seems
too high _____ too low _____ just right _____
9. If a \$3 fee had been levied for use of this service, would you have used it?
Yes _____ No _____ Uncertain _____